AMENDMENTS TO THE CLAIMS

1. (Currently amended) A surgical fluid pump system for transporting a sterile fluid from a source to a surgical instrument, comprising:

a drive system; and

a pump system comprising:

an inlet for establishing a fluid connection to said source;

an outlet for establishing a fluid connection to said surgical instrument;

first and second pumps, each of said first and second pumps comprises a pump conduit connectable to the surgical instrument by way of output valves, wherein the pump conduits are connected by way of suction conduits and suction valves to a common suction conduit that can be connected to the source by way of a releasable coupling;

each of said first and second pumps having a piston that contacts said sterile fluid to apply a pressure to said sterile fluid, each of said pumps having a suction cycle for drawing in the sterile fluid and an output cycle for ejecting the sterile fluid, wherein a separately controllable drive motor is provided for each of said first and second pumps; and

an electronic control system for controlling the drive motors by setting a piston velocity profile for each of the first and second pumps; [[and]]

~~conduit and valve devices that provide a sterile fluid path between said inlet, said pumps and said outlet,~~

wherein the pump system is releasably connected to the drive system, and

said drive system drives said pump system in such a way that said suction cycle of each pump is shorter than said output cycle of each pump and in such a way that the output cycles of the

first and second pumps overlap so that said fluid is supplied to said outlet with a substantially constant pressure.

2. (Currently amended) A surgical fluid pump system for transporting a sterile fluid from a source to a surgical instrument, said system comprising:

a drive system; and

a disposable pump system comprising:

an inlet for establishing a fluid connection to said source;

an outlet for establishing a fluid connection to said surgical instrument;

first, second and third pumps, each of said first, second and third pumps comprises a pump conduit connectable to the surgical instrument by way of output valves, wherein the pump conduits are connected by way of suction conduits and suction valves to a common suction conduit that can be connected to the source by way of a releasable coupling;

each of the three pumps~~, each pump~~ having a piston that contacts said sterile fluid to apply a pressure to said sterile fluid, each of said pumps having a suction cycle for drawing in the sterile fluid and an output cycle for ejecting the sterile fluid, wherein a separately controllable drive motor is provided for each of said three pumps; and

an electronic control system for controlling the drive motors by setting a piston velocity profile for each of the three pumps; [[and]]

~~conduit and valve devices that provide a sterile fluid path between said inlet, said pumps and said outlet,~~

wherein the pump system is releasably connected to the drive system, and

said drive system drives said pump system in such a way that the suction cycle of one or more of the pumps overlap with the output cycle of one or more of the remaining pumps.

3. (Previously presented) The surgical fluid pump system according to claim 1, wherein

said drive system drives said first and second pumps in a push-pull manner in such a way that the suction cycle in the first pump is shorter than the output cycle in the second pump and that the suction cycle in the second pump is shorter than the output cycle in the first pump.

4. (Previously presented) The surgical fluid pump system according to claim 1, wherein said drive system drives said pump system in such a way that said output cycles overlap.

5-7. (Canceled)

8. (Previously presented) The surgical fluid pump system according to claim 2, wherein

said drive system comprises a controllable rotary drive motor configured and adapted to mechanically drive said piston of each of said pumps.

9. (Canceled)

10. (Previously presented) The surgical fluid pump system according to claim 2, wherein said drive system drives said pump system in such a way that said output cycles overlap.

11. (Previously presented) The surgical fluid pump system according to claim 2, wherein said drive system drives said pump system in such a way that said fluid is supplied to said outlet with a substantially constant pressure.

12. (Canceled)

13. (Canceled)

14. (Currently amended) A surgical fluid pump system for transporting a sterile fluid from a source to a surgical instrument, said system comprising:

a drive system; and

a pump system comprising:

an inlet for establishing a fluid connection to said source;

an outlet for establishing a fluid connection to said surgical instrument;

first and second pumps, each of said first and second pumps comprises a pump conduit connectable to the surgical instrument by way of output valves, wherein the pump conduits are connected by way of suction conduits and suction valves to a common suction conduit that can be connected to the source by way of a releasable coupling;

each of said first and second pumps having a piston that contacts said sterile fluid to apply a pressure to said sterile fluid, each of said pumps having a suction cycle for drawing in the sterile fluid and an output cycle for ejecting the sterile fluid, wherein a separately controllable drive motor is provided for each of said first and second pumps; and

an electronic control system for controlling the drive motors by setting a piston velocity profile for each of the first and second pumps; [[and]]

~~conduit and valve devices that provide a sterile fluid path between said inlet, said first and second pumps and said outlet,~~

wherein the drive system drives said pump system in such a way that, for each of said first and second pumps, the suction cycle of said first pump is shorter than the output cycle in the second pump and vice versa and in such a way that the output cycles of the first and second pumps overlap,

the pump system is releasably connected to the drive system, and

said pump system is constructed as a disposable unit.

15. (Previously presented) The surgical fluid pump system according to claim 14, wherein said drive system drives said first and second pumps in a push-pull manner in such a way that the

suction cycle in the first pump is shorter than the output cycle in the second pump and that the suction cycle in the second pump is shorter than the output cycle in the first pump.

16. (Previously presented) The surgical fluid pump system according to claim 14, wherein the drive system drives said pump system in such a way that the fluid is supplied to the outlet with a substantially constant pressure.

17. (Previously presented) The surgical fluid pump system according to claim 14, wherein

said drive system comprises a controllable rotary drive motor configured and adapted to mechanically drive said piston of each of said first and second pumps.

18. (Canceled)

19. (Currently amended) A surgical fluid pump system for transporting a sterile fluid from a source to a surgical instrument, comprising:

a drive system; and

a pump system comprising:

an inlet for establishing a fluid connection to said source;

an outlet for establishing a fluid connection to said surgical instrument;

first, second and third pumps, each of said first, second and third pumps comprises a pump conduit connectable to the surgical instrument by way of output valves, wherein the pump conduits are connected by way of suction conduits and suction valves to a common suction conduit that can be connected to the source by way of a releasable coupling;

~~at least~~ each of the three pumps~~, each of said pumps~~ having a piston that contacts said sterile fluid to apply a pressure to said sterile fluid, each of said pumps having a suction cycle for drawing in the sterile fluid and an output cycle for ejecting the sterile fluid, wherein a separately controllable drive motor is provided for each of said at least three pumps; and

an electronic control system for controlling the drive motors by setting a piston velocity profile for each of the at least three pumps; [[and]]

~~conduit and valve devices that provide a sterile fluid path between said inlet, said pumps and said outlet,~~

wherein the pump system is releasably connected to the drive system, and

the drive system drives said pump system in such a way that, for each of said at least three pumps, the suction cycle is shorter than the output cycle and in such a way that the suction cycle of one or more of the pumps overlap with the output cycles of one or more of the remaining pumps.

20. (Previously presented) The surgical fluid pump system according to claim 19, wherein the drive system drives said pump system in such a way that the output cycles overlap.

21. (Previously presented) The surgical fluid pump system according to claim 19, wherein the drive system drives said pump system in such a way that the fluid is supplied to the outlet with a constant pressure.

22. (Canceled)

23. (Previously presented) The surgical fluid pump system according to claim 19, wherein the pump system is constructed as a disposable unit.

24. (Canceled)

25. (Previously presented) The surgical fluid pump system according to claim 19,

wherein said drive system comprises a controllable rotary drive motor configured and adapted to mechanically drive said piston of each of said pumps.

26. (Canceled)

27. (Currently amended) A surgical fluid pump system for transporting a sterile fluid from a source to a surgical instrument, said system comprising:

a drive system; and

a pump system comprising:

an inlet for establishing a fluid connection to said source;

an outlet for establishing a fluid connection to said surgical instrument;

first, second and third pumps, each of said first, second and third pumps comprises a pump conduit connectable to the surgical instrument by way of output valves, wherein the pump conduits are connected by way of suction conduits and suction valves to a common suction conduit that can be connected to the source by way of a releasable coupling;

~~at least~~ each of the three pumps~~, each of said pumps~~ having a piston that contacts said sterile fluid to apply a pressure to said sterile fluid, each of said pumps having a suction cycle for drawing in the sterile fluid and an output cycle for ejecting the sterile fluid, wherein a separately controllable drive motor is provided for each of said at least three pumps; and

an electronic control system for controlling the drive motors by setting a piston velocity profile for each of the at least three pumps; [[and]]

~~conduit and valve devices that provide a sterile fluid path between said inlet, said pumps and said outlet,~~

wherein the pump system is releasably connected to the drive system, and

the drive system drives said pump system in such a way that the suction cycle of one or more of the pumps overlap with the output cycle of one or more of the remaining pumps.

28. (Previously presented) The surgical fluid pump system according to claim 27, wherein the drivc system drives said pump system in such a way that the fluid is supplied to the outlct with a constant pressurc.

29. (Canceled)

30. (Previously presented) The surgical fluid pump system according to claim 27, wherein the pump system is constructed as a disposable unit.

31. (Canceled)

32. (Previously presented) The surgical fluid pump system according to claim 27,

said drive system comprises a controllable rotary drive motor configured and adapted to mechanically drive said piston of each of said pumps.

33. (Canceled)

34. (Currently amended) A disposable surgical fluid pumping device for pumping a sterile fluid from a source to a surgical instrument, comprising:

an inlet for establishing a fluid connection to said source;

an outlet for establishing a fluid connection to said surgical instrument;

a plurality of pumps, each of said plurality of pumps comprises a pump conduit connectable to the surgical instrument by way of output valves, wherein the pump conduits are connected by way of suction conduits and suction valves to a common suction conduit that can be connected to the source by way of a releasable coupling;

each of said pumps including a piston that contacts said sterile fluid to apply a pressure to said sterile fluid, wherein a separately controllable drive motor is provided for each of said plurality of pumps; and

an electronic control system for controlling the drive motors by setting a piston velocity profile for each of the plurality of pumps;

~~conduit and valve devices that provide a sterile fluid path between said inlet, each of said plurality of pumps and said outlet,~~

wherein said valve devices prohibit an outflow of said sterile fluid at said inlet and prohibit an inflow of said sterile fluid at said outlet, and

a portion of said sterile fluid path from said inlet to a respective one of said pumps is common to a portion of said sterile fluid path from said respective one of said pumps to said outlet.